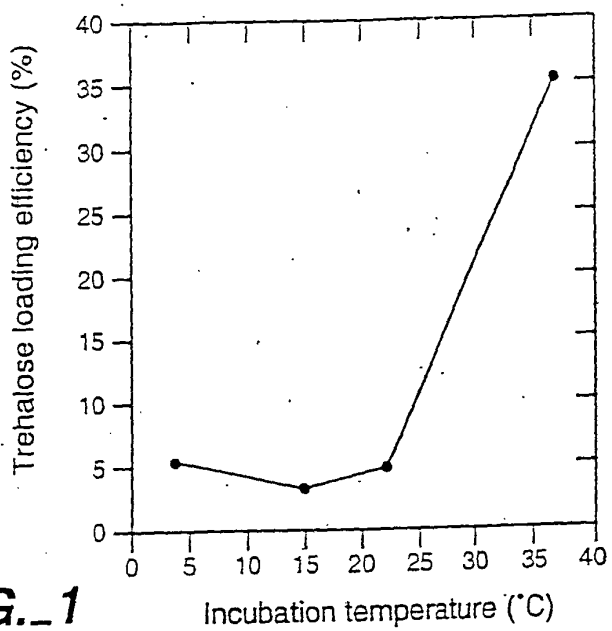

Trehalose loading efficiency (%)
0
5
10
15
20
25
30
35
40
0
5
10
15
20
25
30
35
40
Incubation temperature (°C)

FIG._1

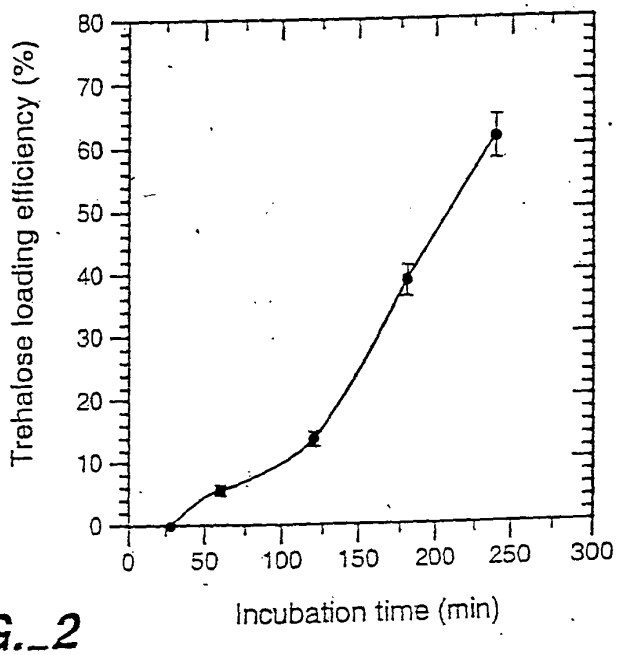

Trehalose loading efficiency (%)
0
10
20
30
40
50
60
70
80
0
50
100
150
200
250
300
Incubation time (min)

FIG._2

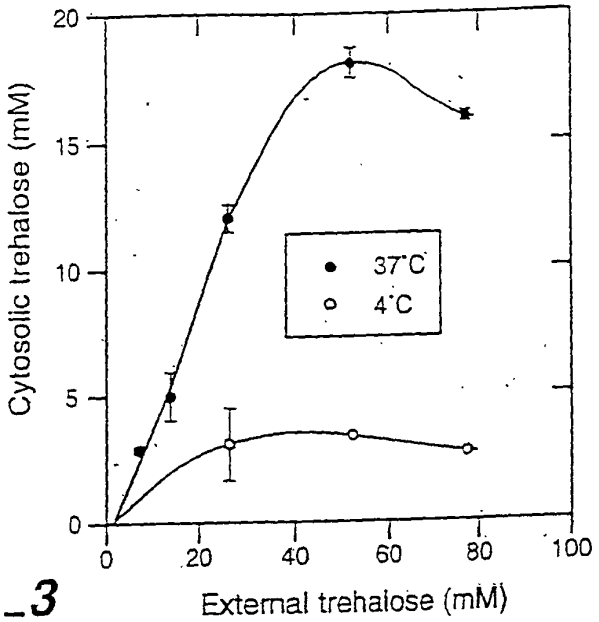

Cytosolic trehalose (mM)
20
15
10
5
0
37°C
4°C
0
20
40
60
80
100
External trehalose (mM)

FIG._3

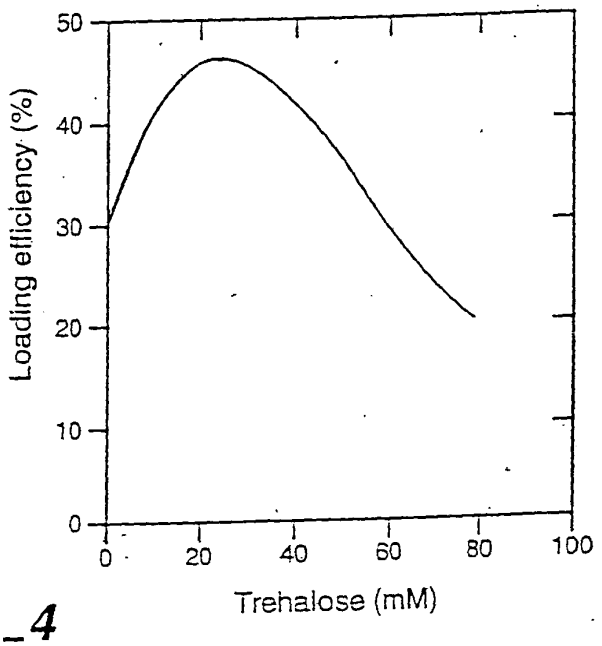

Loading efficiency (%)
50
40
30
20
10
0
0
20
40
60
80
100
Trehalose (mM)

FIG._4

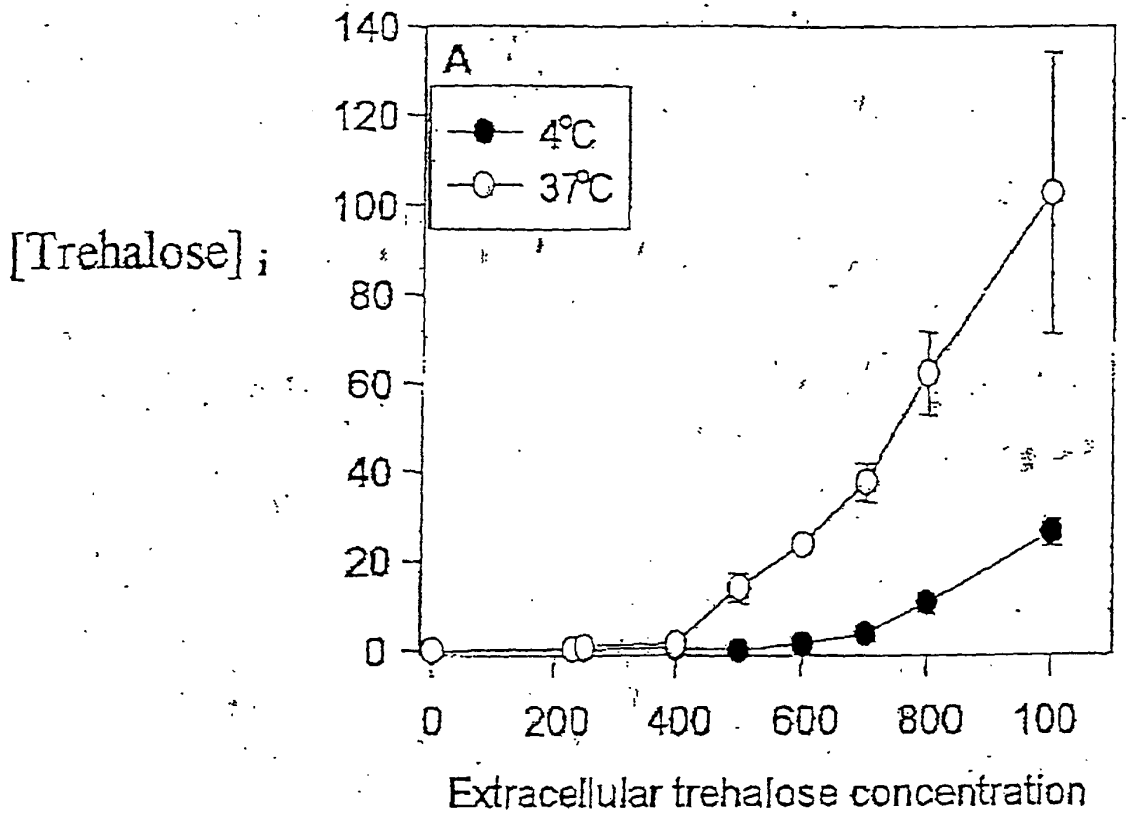

[Trehalose] i
140
120
100
80
60
40
20
0
A
4°C
37°C
0
200
400
600
800
100
Extracellular trehalose concentration

Fig. 5

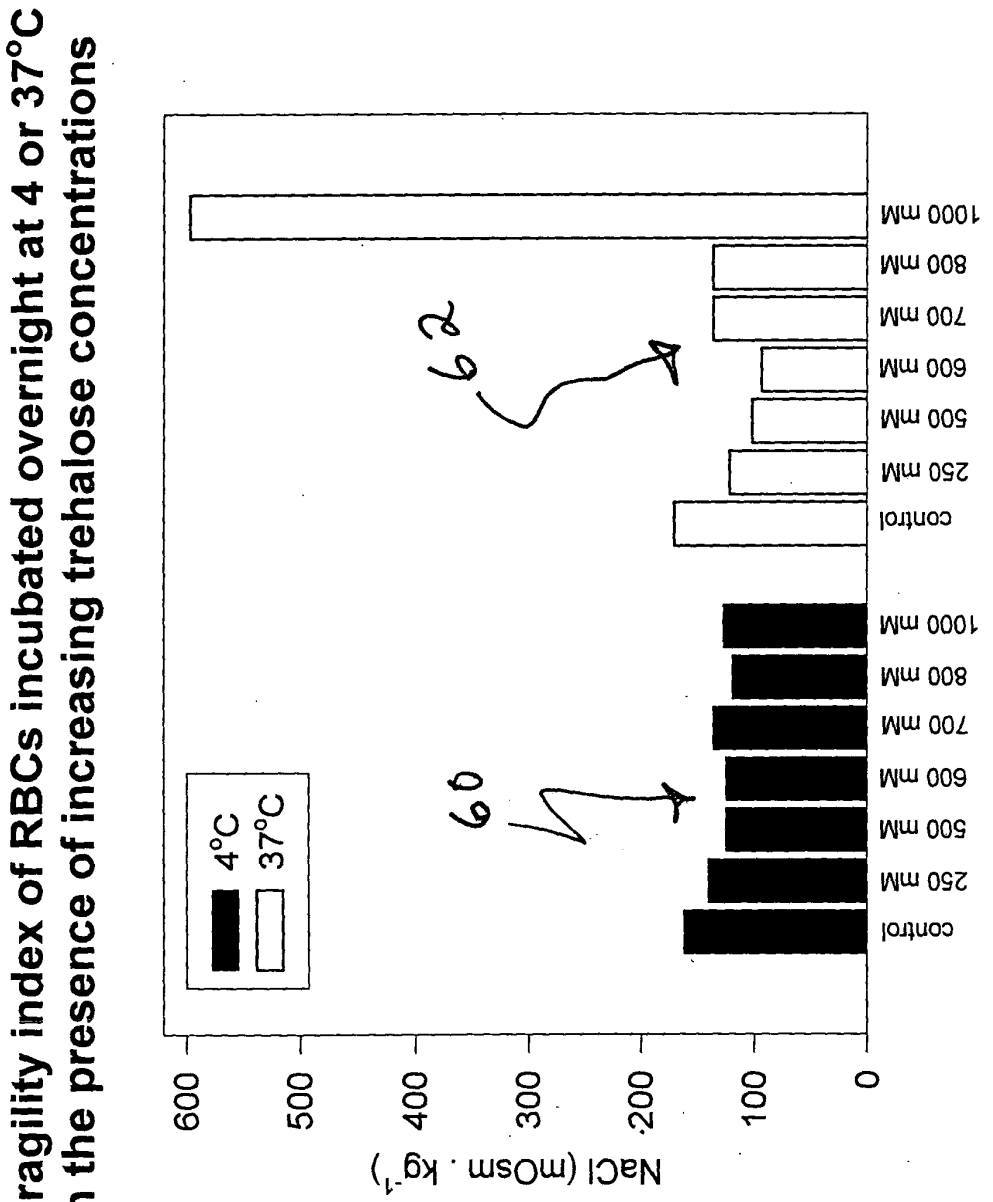

Fragility index of RBCs incubated overnight at 4 or 37°C in the presence of increasing trehalose concentrations
NaCl (mOsm · kg⁻¹)
0
100
200
300
400
500
600
4°C
37°C
control
250 mM
500 mM
600 mM
700 mM
800 mM
1000 mM
control
250 mM
500 mM
600 mM
700 mM
800 mM
1000 mM
60
62

Figure 6

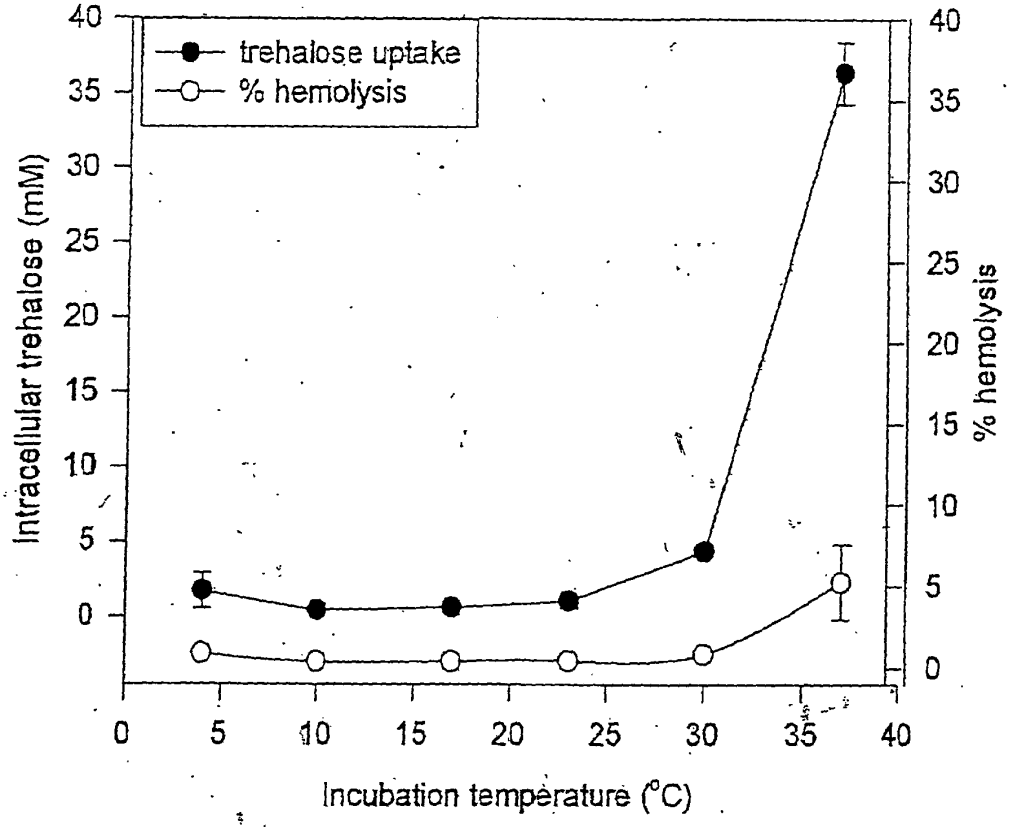

trehalose uptake
% hemolysis
Intracellular trehalose (mM)
% hemolysis
Incubation temperature (°C)
0
5
10
15
20
25
30
35
40

Fig 7

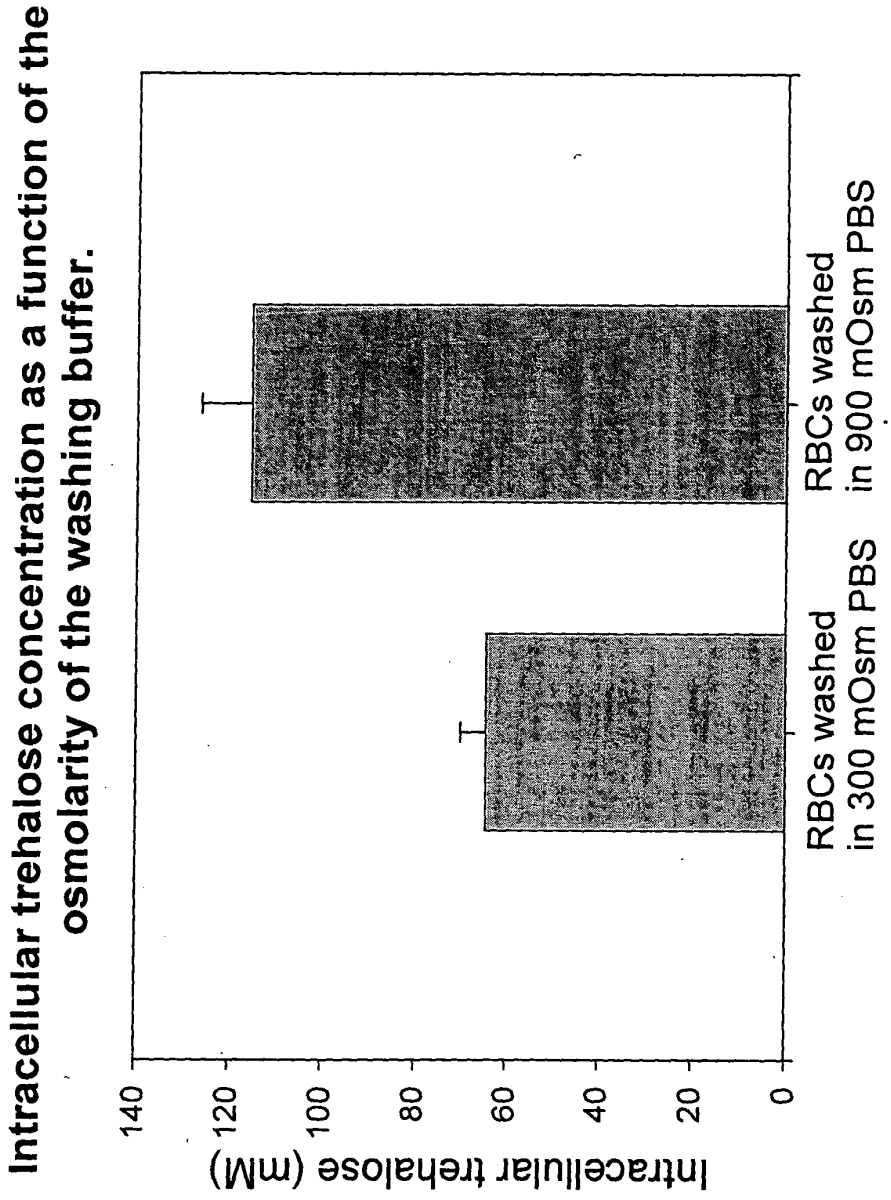

Intracellular trehalose concentration as a function of the osmolarity of the washing buffer.
Intracellular trehalose (mM)
0
20
40
60
80
100
120
140
RBCs washed in 300 mOsm PBS
RBCs washed in 900 mOsm PBS

Figure 8

Percent hemolysis of trehalose loaded RBCs as a function of time of incubation in 300 mOsm PBS. RBCs were loaded in 700 mM trehalose/100 mOsm PBS at 35°C for 16 hours and were incubated in 300 mOsm PBS.

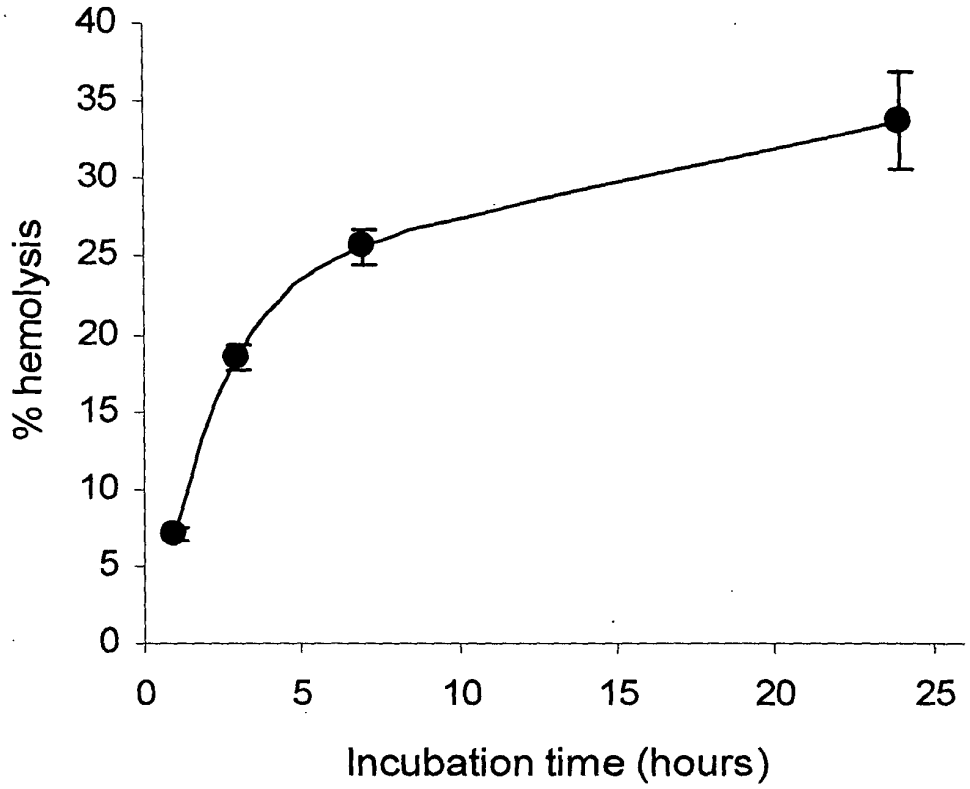



Figure 9

Percent hemolysis of trehalose loaded RBCs as a function of the composition of the incubation buffer. RBCs were loaded in 700 mM trehalose/100 mOsm PBS at 35°C for 16 hours

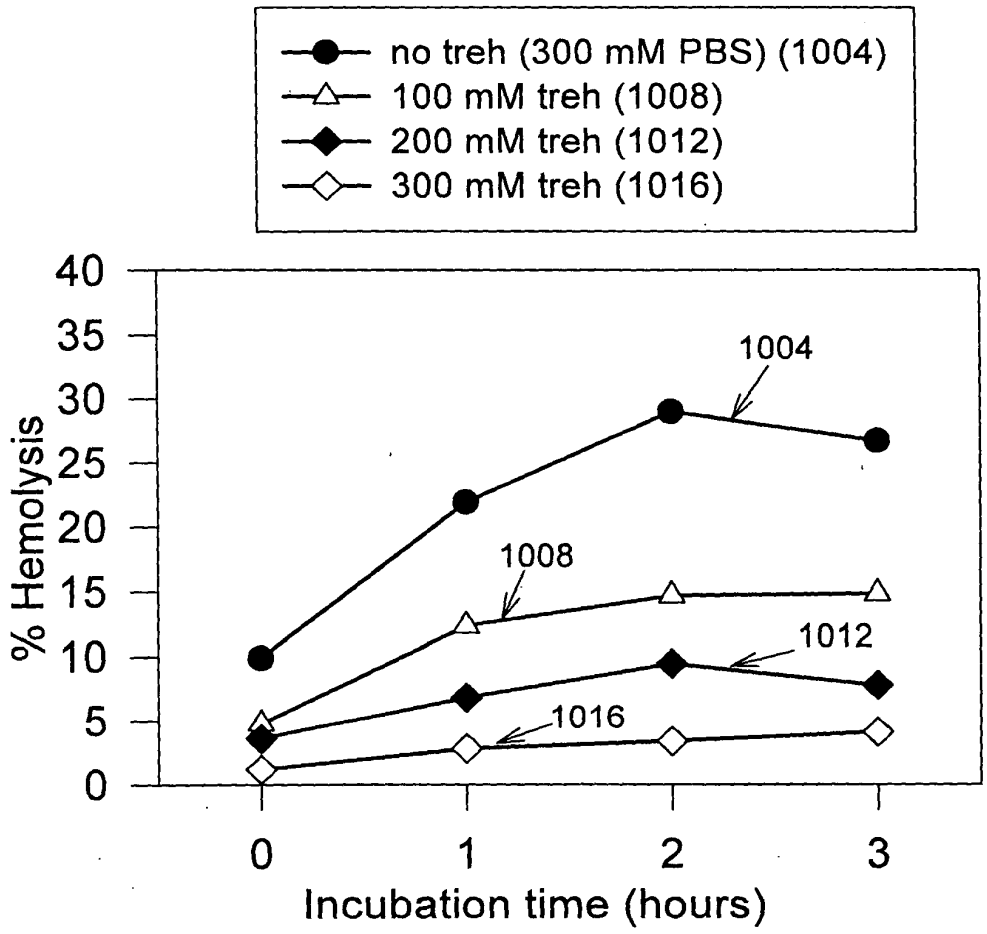



Figure 10

Percent hemolysis of trehalose loaded RBCs as a function of the composition of the incubation buffer. RBCs were loaded in 700 mM trehalose/100 mOsm PBS at 35°C for 16 hours

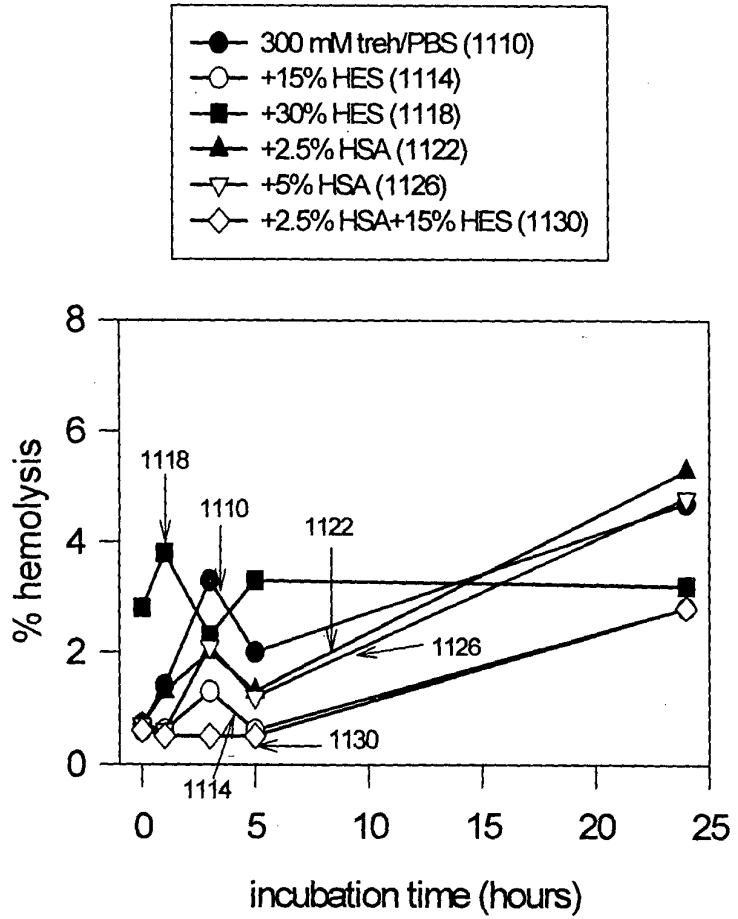



Figure 11

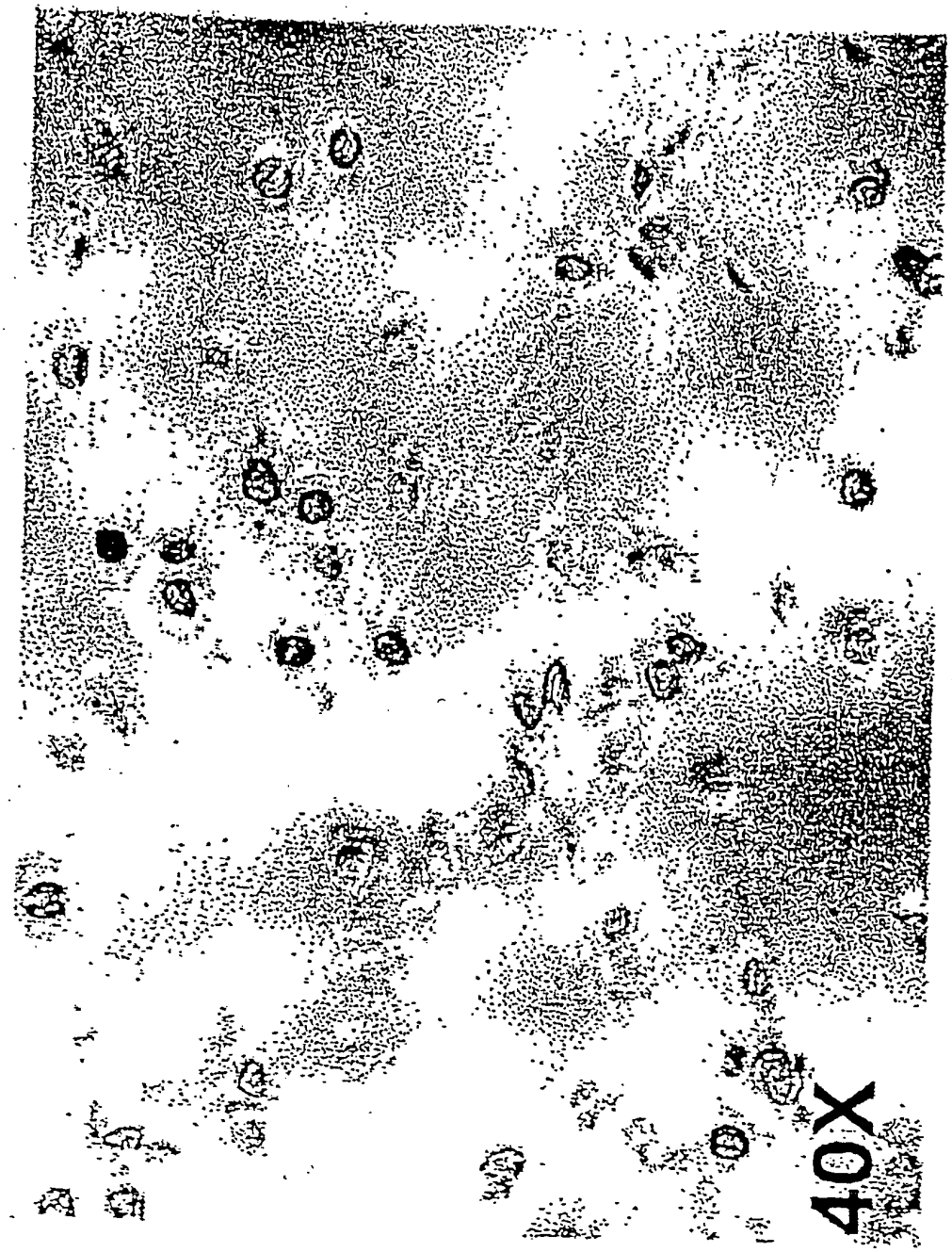
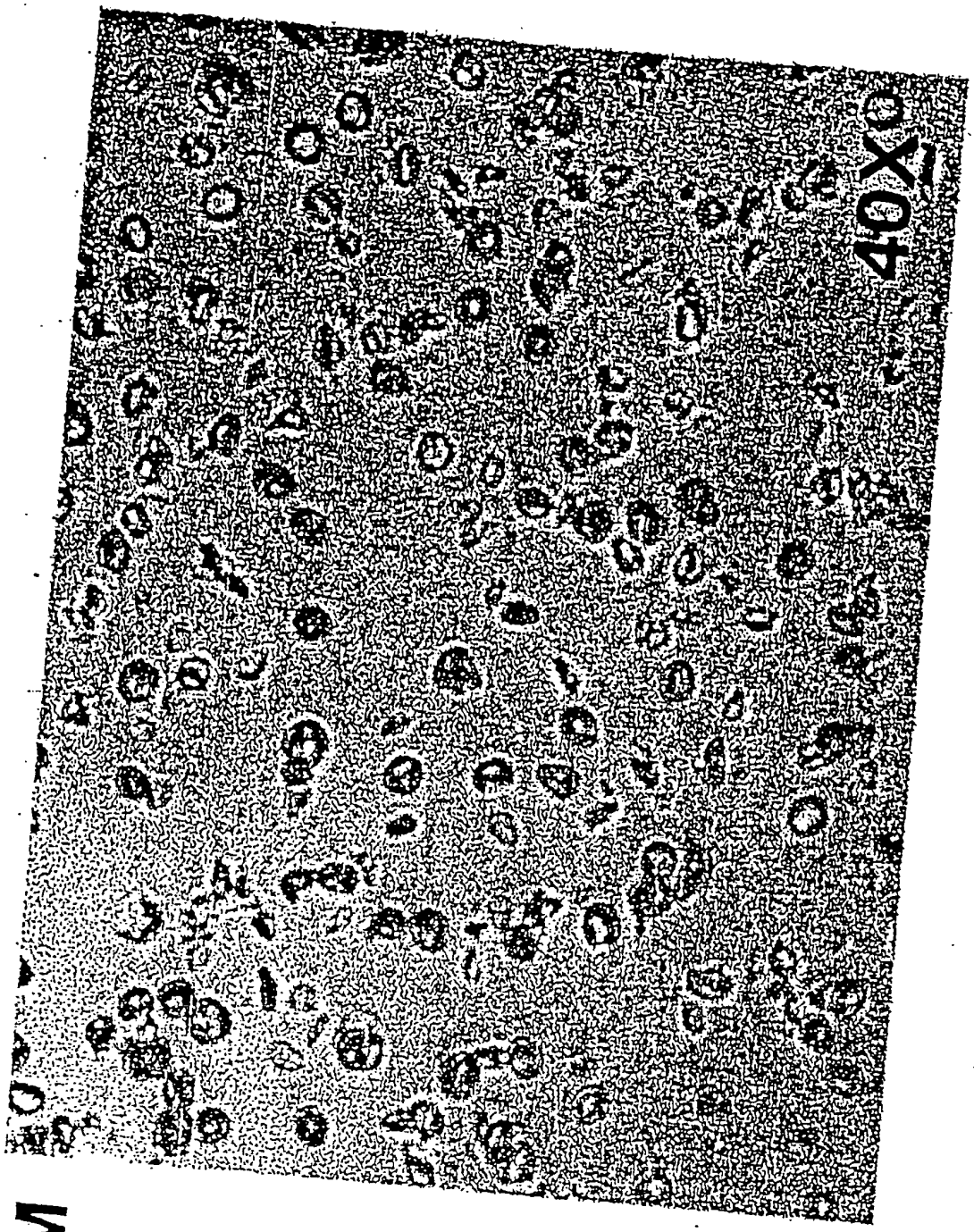



Fig 1a




3 mM

Fig 3

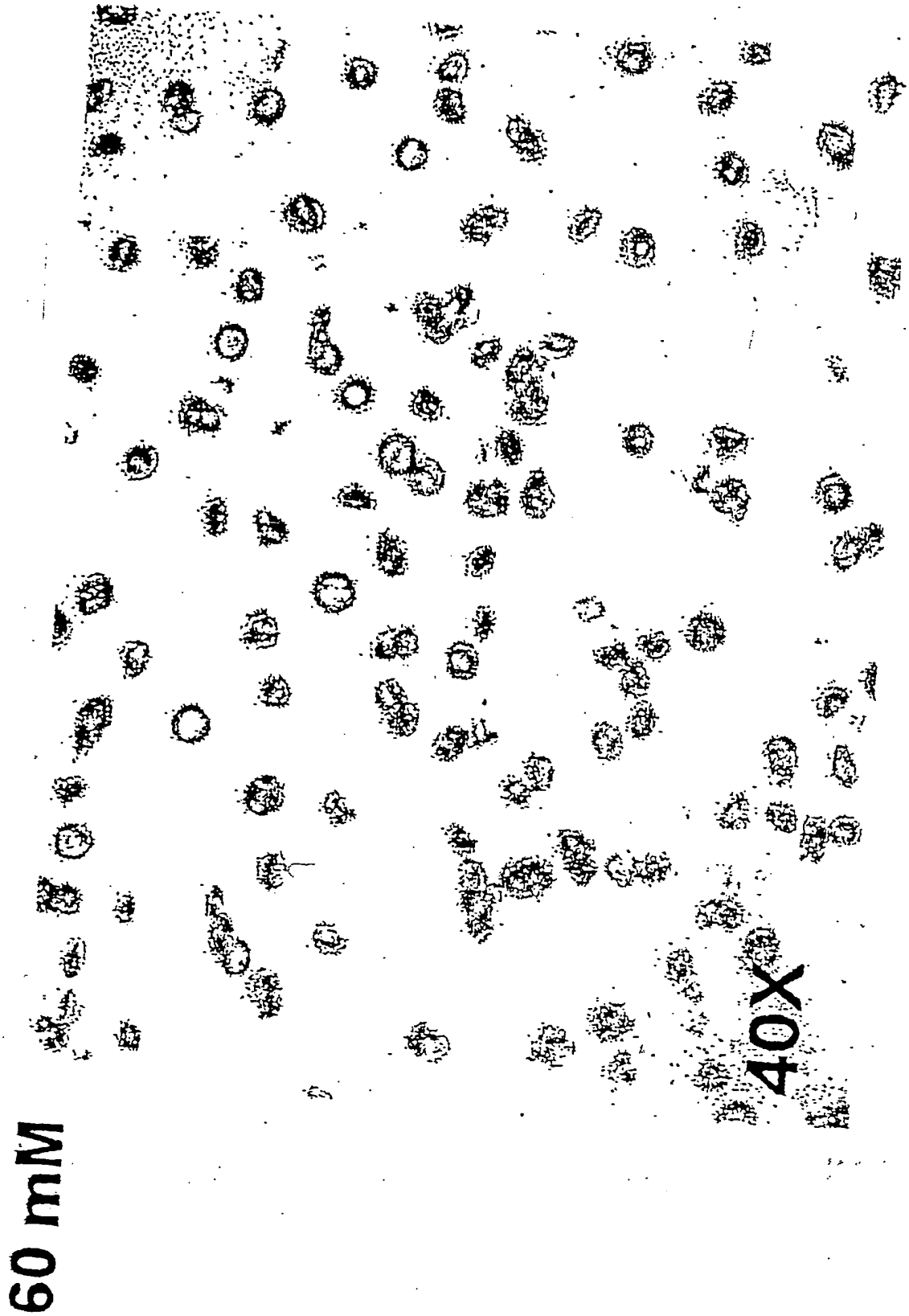



Fig 14

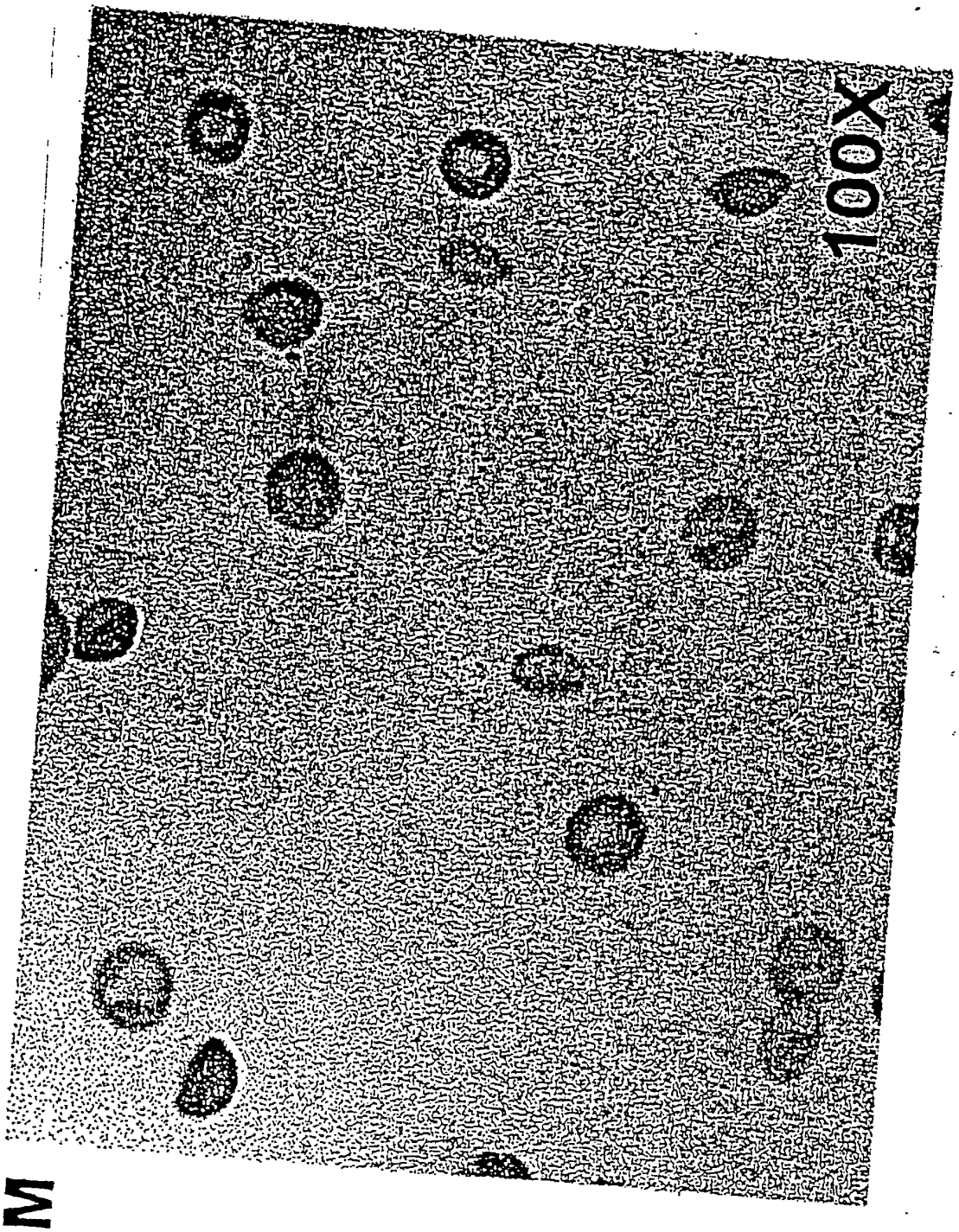



Fig 15

Fig 16

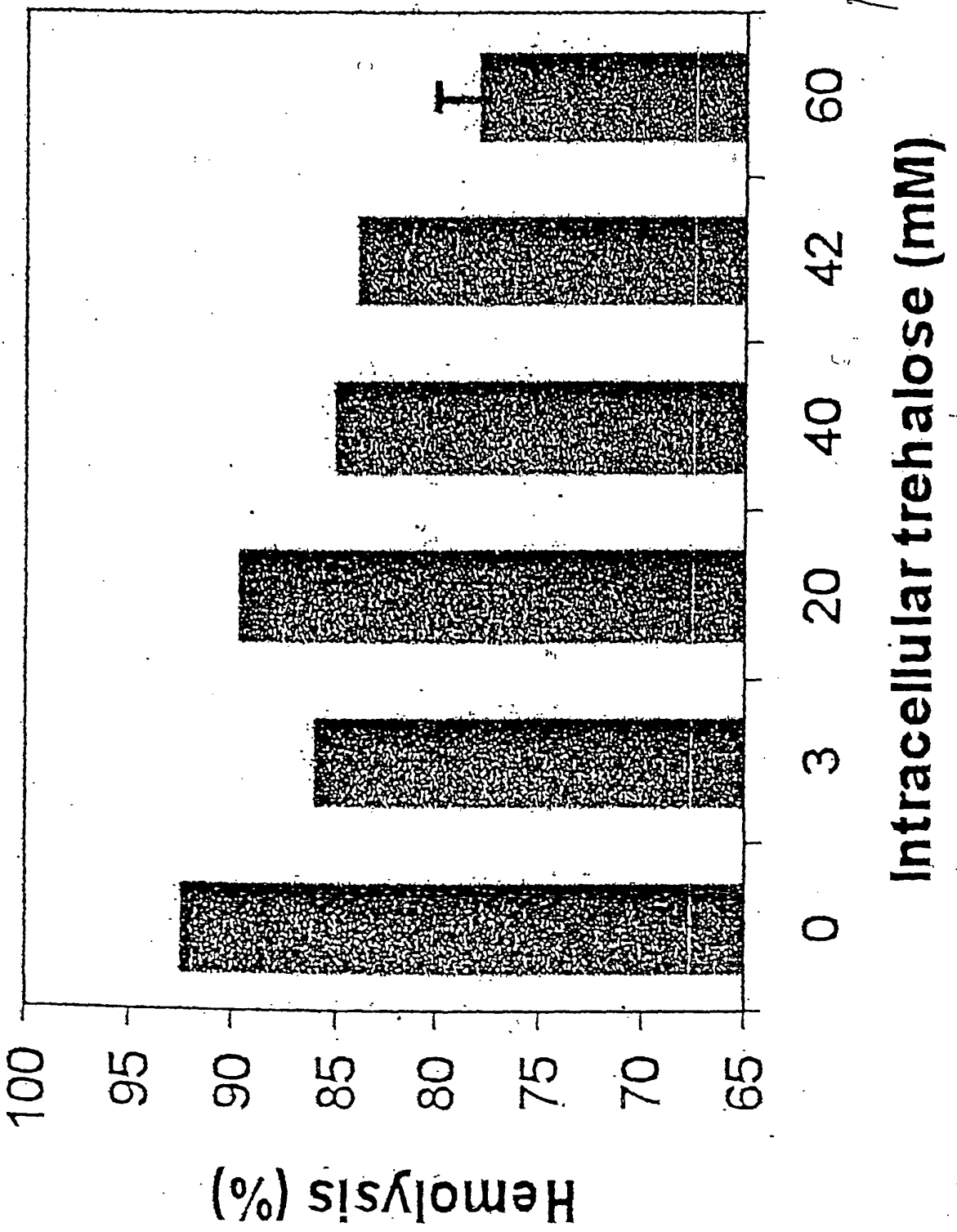
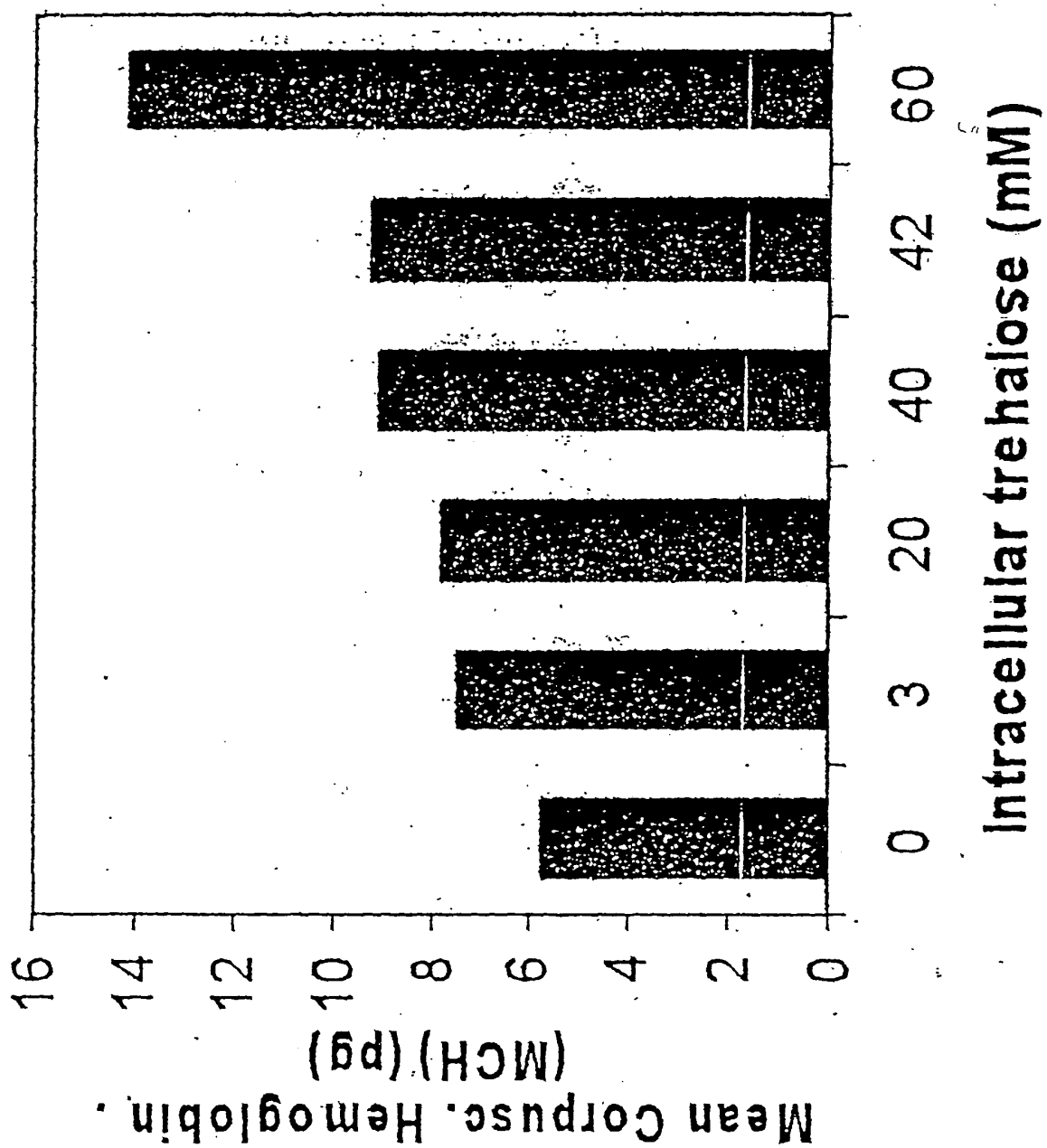

Hemolysis (%)
100
95
90
85
80
75
70
65
Intracellular trehalose (mM)
0
3
20
40
42
60

Fig 17


Mean Corpusc. Hemoglobin (MCH) (pg)
0
2
4
6
8
10
12
14
16
Intracellular trehalose (mM)
0
3
20
40
42
60

ATP (µmol/g Hb) in erythrocytes incubated in 800 mM trehalose and different buffers (see legend) as a function of time of incubation at 40°C

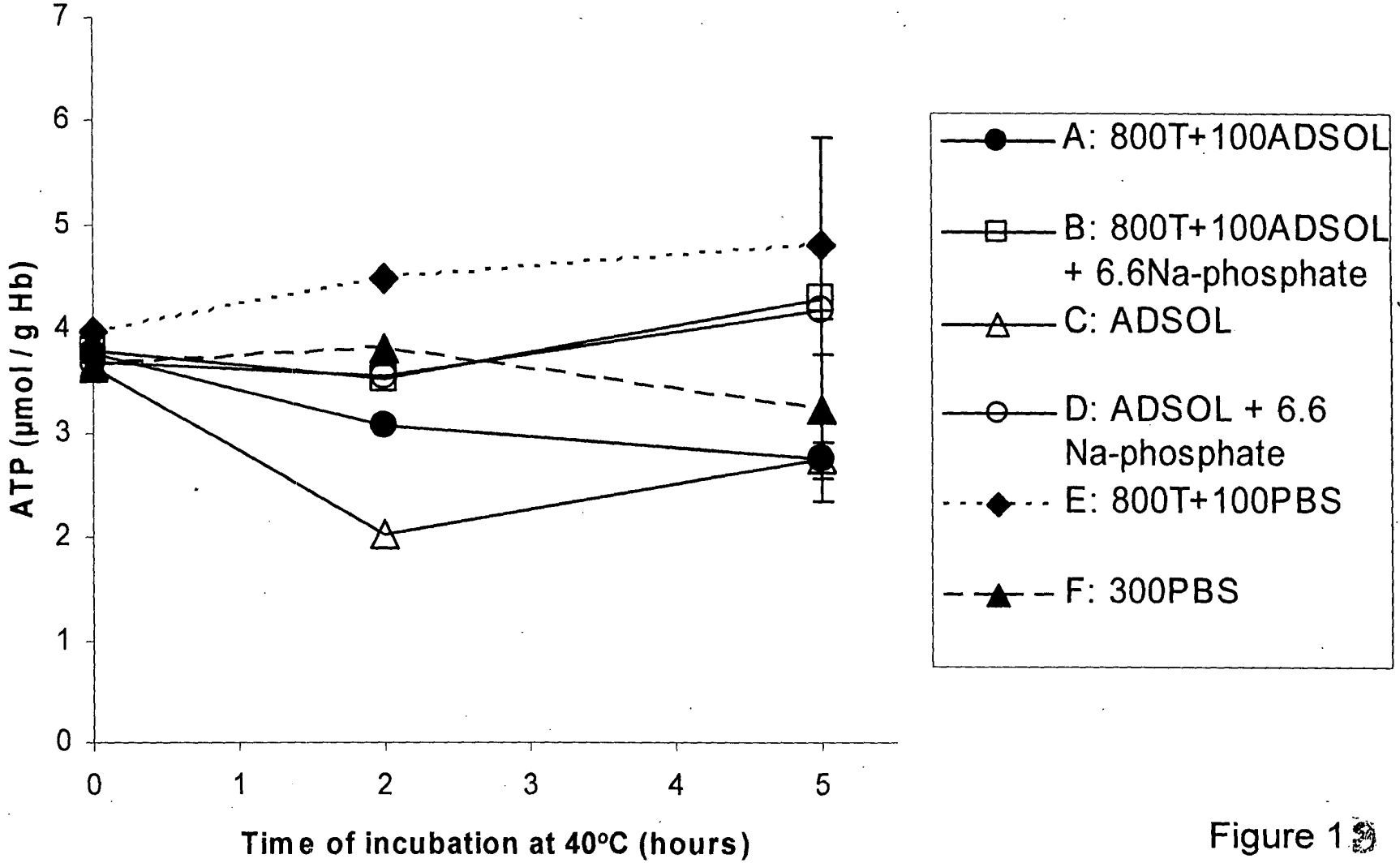



Figure 1

2,3-DPG level in erythrocytes incubated in different buffers as a function of time of incubation at 40°C

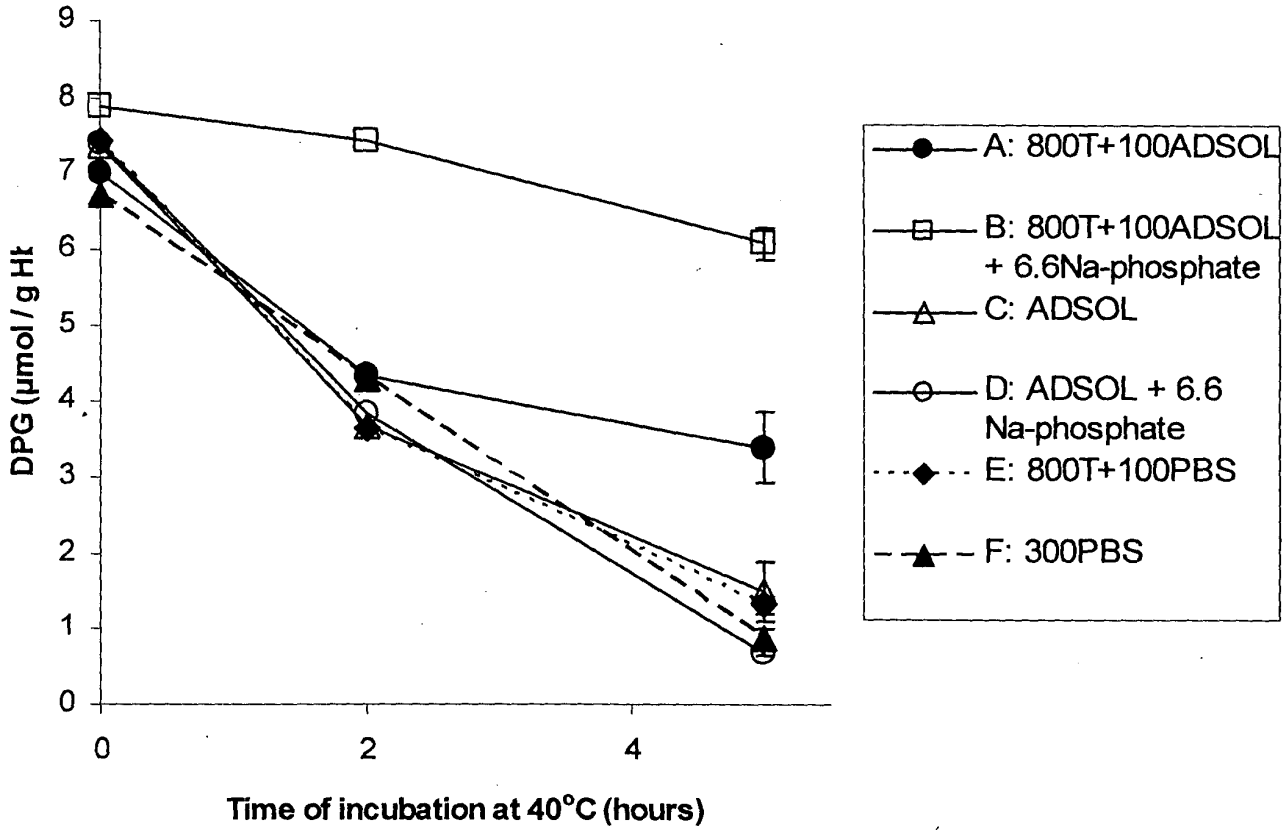



Figure 19

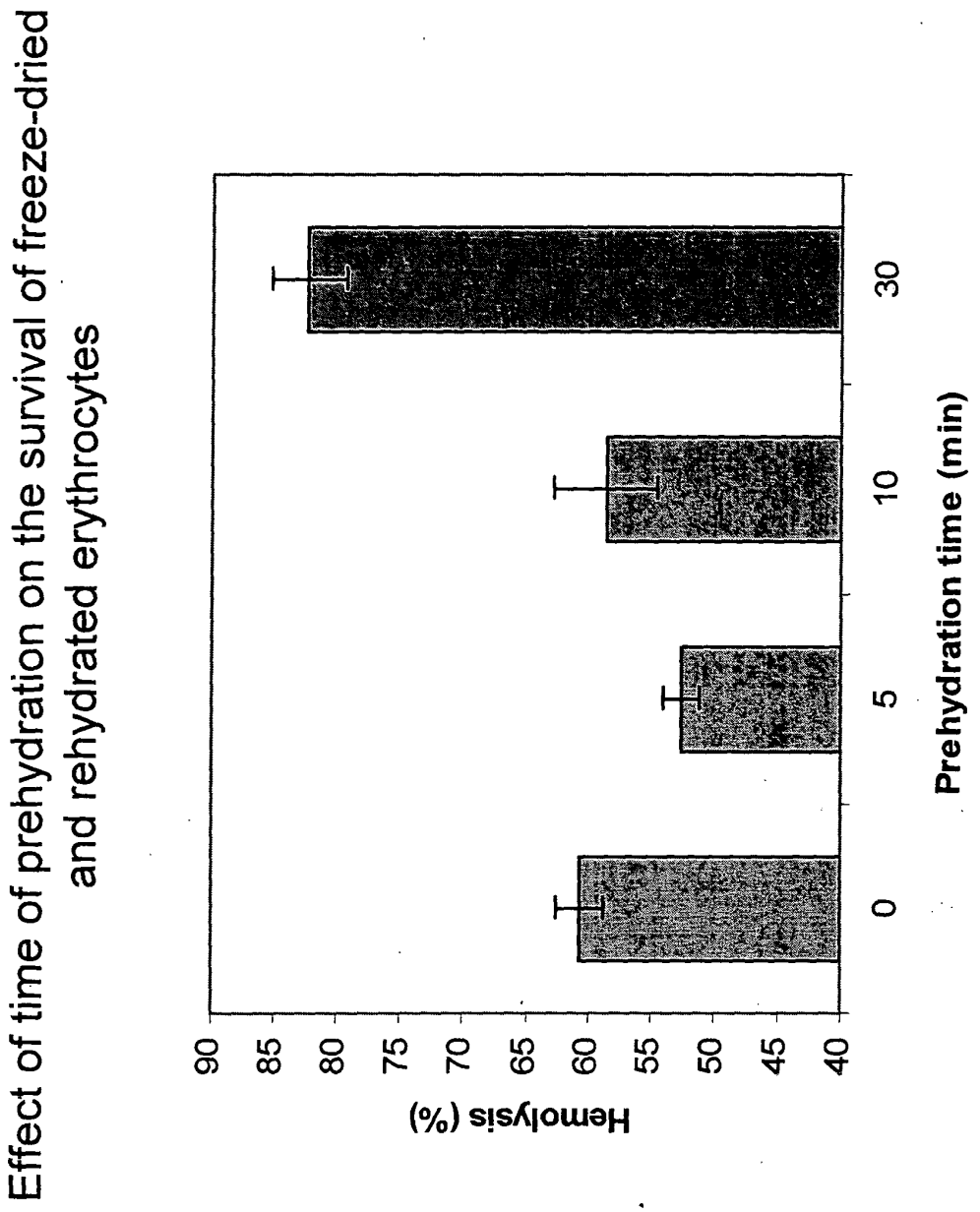

Effect of time of prehydration on the survival of freeze-dried and rehydrated erythrocytes
Hemolysis (%)
90
85
80
75
70
65
60
55
50
45
40
0
5
10
30
Prehydration time (min)

Figure 20

Effect of α-crystallin on the survival of freeze-dried and rehydrated erythrocytes

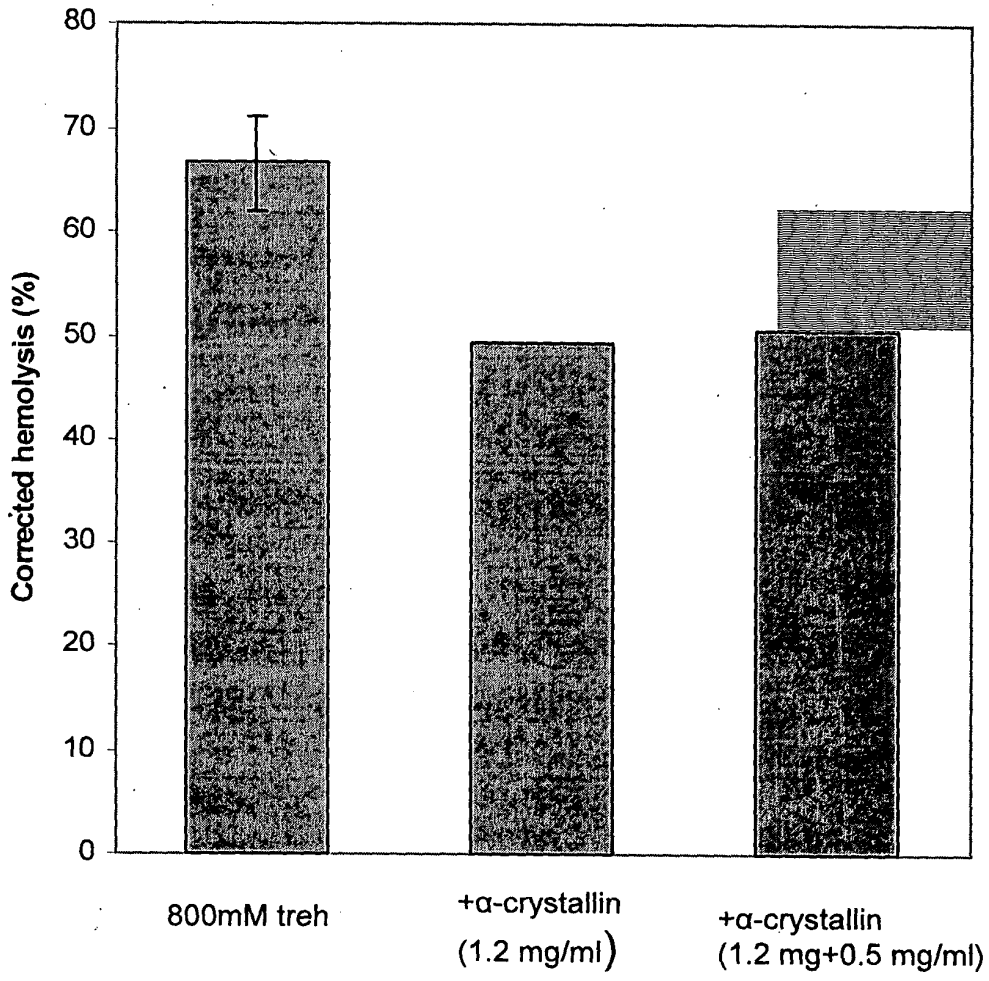



Figure 21

Effect of pre-hydration (5 min), α-crystallin (1.2 mg/ml) and $Zn^{2+}$ (500 µl) on the survival of freeze-dried and rehydrated erythrocytes.

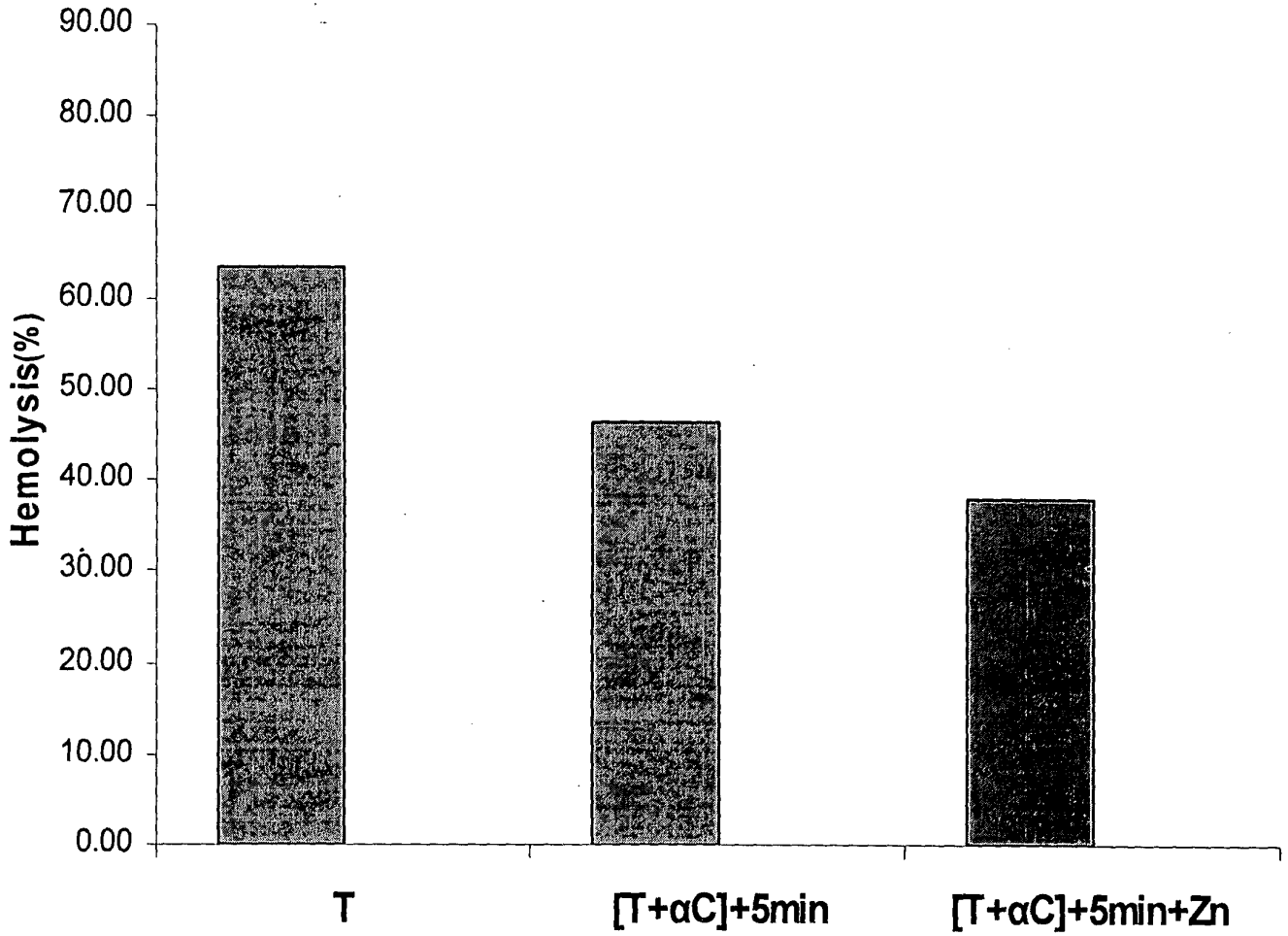
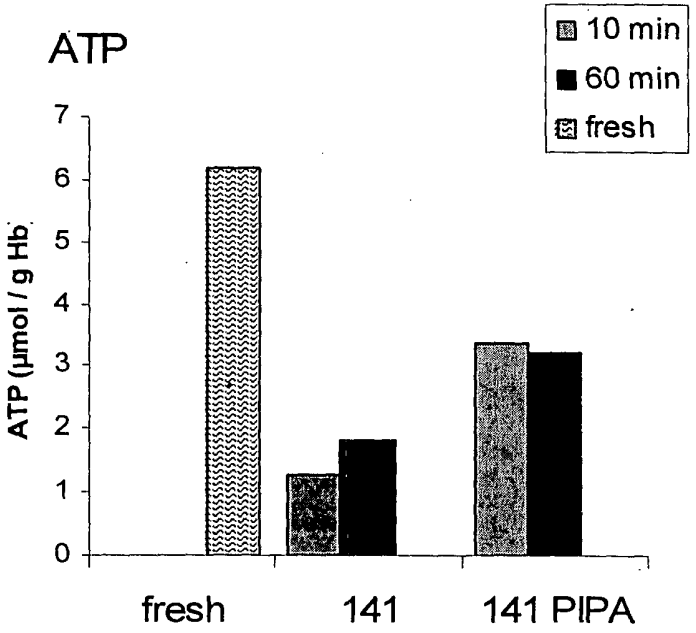



Figure 22

Effect of rejuvenating buffer on the synthesis of ATP and 2,3-DPG in rehydrated erythrocytes.



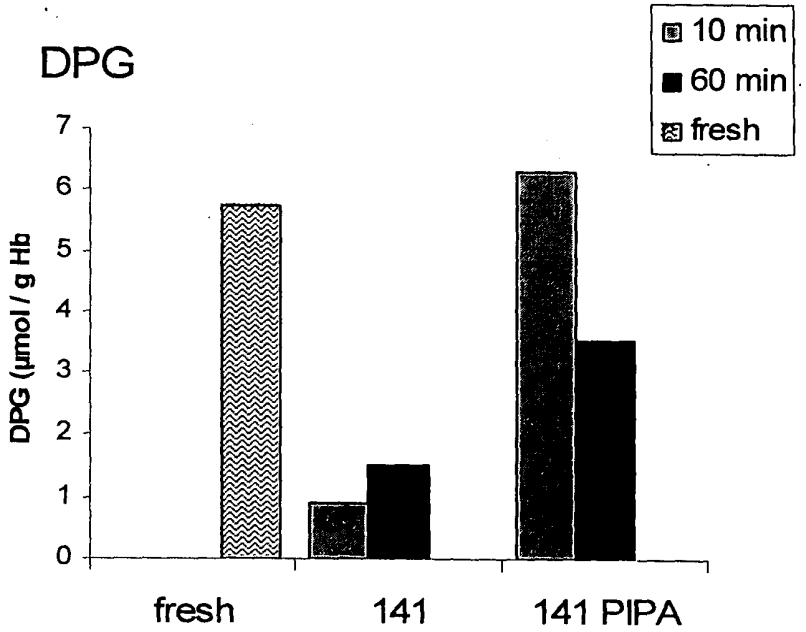






Figure 23